

Joint Meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Working Group

Renaissance Dallas Addison Hotel
Dallas, Texas
December 13-14, 2022

Meeting Summary

The Southern States Energy Board's (SSEB) Joint Meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Working Group took place on December 13-14, 2022. The event was hosted at the Renaissance Dallas Addison Hotel in Dallas, Texas.

Mr. Christopher Wells, Director of Nuclear Programs for the Southern States Energy Board, called the meeting to order. He welcomed the attendees, presented his fellow staff, provided logistical remarks, and made a few administrative announcements. Following the brief comments, Mr. Wells relinquished moderation of the initial day to Ms. Denise Brooks (Texas), Chair of the Transuranic Waste Transportation Working Group who commenced with the self-introduction of all meeting participants.

The first speaker of the event was Ms. Ellen Edge with the U.S. Department of Energy/Environmental Management (EM) Office of Packaging and Transportation. Ms. Edge told the group she would provide an overview of EM's organizational structure and activities within her division, shipping statistics, cleanup priorities, and site updates. Ms. Edge described her office's placement and mission within the Department's management structure. She discussed key programs such as compliance and safety, packaging certification, stakeholder engagement, transportation planning, field support and policy and regulatory support. Next, Ms. Edge displayed graphs displaying EM shipment numbers and categories. She also talked about several remediation milestones accomplished throughout the EM complex. Next, she specifically addressed the Department of Energy (DOE) Order revision process. She described the Department's undertakings regarding DOE Order 460.2 (Departmental Materials Transportation and Packaging Management) to ensure the safe, secure, efficient packaging and transportation of materials, both hazardous and nonhazardous. The Order was published in June 2022 and is available online. Ms. Edge ended her presentation by briefly informing members of the 2023 National Transportation Stakeholders Forum (NTSF) and the Transportation Emergency

Preparedness Program (TEPP) and alerting them both topics would be covered in greater detail by upcoming speakers.

Second to address the Committees were J.R. Lewis and John O' Keefe representing the Hazardous Materials Division of the Federal Motor Carrier Safety Administration (FMCSA). They began by stating their mission to reduce serious highway incidents and fatalities involving hazardous materials transport. They provided statistics of hazardous materials carriers and FMCSA's roadside inspection results and permitting program. They talked about the development of their modernized hazardous materials routing registry available on the website. They concluded their presentation time by reviewing pertinent Pipeline and Hazardous Materials Safety Administration rulemakings and interpretations of note.

Next, Mr. James Mason (Institutional Affairs Manager) and Mr. Bobby St. John (Deputy Manager of Nuclear Waste Partnership Communications) provided the Waste Isolation Pilot Plant (WIPP) update. Mr. St. John began by noting several recent accomplishments including panel mining, improved project management and the integration of electric construction vehicles. He proceeded to inform the group WIPP has received in excess of 13,000 shipments since it opened in 1999 and is gradually approaching 16 million loaded safe miles of transport. Currently, the facility has increased its receipt rate to approximately 17 shipments per week. He described the detailed mining activities underway to meet the disposal volume requirements identified in WIPP Land Withdrawal Act. The most significant capital projects continue to be the installation of an improved ventilation system, construction of the Salt Reduction Building and Filter Building and the sinking of the utility shaft. Mr. Mason provided an overview of WIPP's mission and the specifications of the site. He issued figures for FY23 including 40 shippable weeks per year, completing 500 shipments during the fiscal year and designating Argonne, Los Alamos, Lawrence Livermore, Idaho, Oak Ridge and Savannah River as active Laboratory shipping sites. Mr. Mason also noted he would like to see the corridor states renew their planning and participation efforts in field exercises such as modified or full versions of a WIPPTREX. Lastly, he and Mr. St. John talked about their roles in an annual emergency exercise involving a scenario where an airplane crashes at the WIPP site and heavily impacts the waste handling building.

Ms. Sara Hogan of DOE's Office of Nuclear Energy's (DOE-NE) Office of Integrated Waste Management was the next speaker to address the SSEB Committees. She began by identifying newly acquired personnel for her office to support consent-based siting and cross-cutting initiatives. She focused on consent-based-siting and talked about the feedback received from the request for information. She spoke about webinars, the funding opportunity announcement, and the future steps of the process. She talked about how her Office's mission is tied in conjunction to the language in the FY2023 draft appropriation which is primarily geared towards interim storage utilizing the consent-based approach. Next, she shifted her focus to the major programs being undertaken by the Office

of Integrated Waste Management. Pertaining to the topic of rail, Ms. Hogan elaborated on DOE-NE's fabrication and maintenance schedule for the development and testing of the 12-axle ATLAS, 8-axle FORTIS and buffer railcars. In addition, she shared about the integration of a security and safety monitoring system for the railcars. Next, she gave a brief overview of DOE-NE / NTSF Ad Hoc Working Groups including SNF Rail/Routing, Section 180(c), and Communications and Outreach. She stated her department continues to conduct nuclear power plant infrastructure evaluations, the majority of which are located in the northeast and midwestern regions of the U.S. She reviewed upgrades to the Stakeholder Tool for Assessing Radioactive Transportation (START) and revealed a new hosting environment for the application. In addition, she spoke of START virtual training opportunities. She also noted preliminary plans for full-scale cask testing were being incorporated into program activities in anticipation of future transportation. Finally, Ms. Hogan mentioned the Nuclear Waste Technical Review Board's winter meeting would be focused on the transportation work conducted by the Office of Integrated Waste Management.

The Transportation Emergency Preparedness Program Review was delivered by Dan Mills of TRG Incorporated. He told the Committees he would provide an overview of the TEPP mission, training taken place to date, activities scheduled for the near future, training program revisions, improvement projects and available website resources. He displayed a chart with the FY 2022 training courses in the nation, southern region and by state. He also provided details of students by job category and displayed training numbers for SSEB member states over a 5-year period. Next, he talked about the TEPP Products including the Model Needs Assessment and procedures as well as exercise scenarios for various response incidents. He provided an update of the TEPP Improvement Projects including continued agency cooperation with the National Fire Protection Association regarding hazardous materials/weapons of mass destruction applicable standards and practices. Other components of the Improvement Projects included the use of RadResponder in advanced TEPP classes and partnering with the Office of Secure Transport (OST) to have their agents assist with training on the OST classified shipment module. Mr. Mills identified and described the various training programs (CMERRTT, MERRTT, TMERRTT, Radiation Specialist and Hospital Training) being offered by TEPP and also mentioned the associated videos. He noted other partnerships with WIPP and the Rail Workers Hazardous Materials Training Program to provide MERRTT to those in need. Furthermore, he discussed MERRTT Improvement Items such as new flatsheets for decontamination corridor dressdown, armed law enforcement, patient handling and for hospital care providers. Lastly, Mr. Mills gave the attendees a website address for TEPP resources with specific reference to the online MERRTT refresher.

The Federal Railroad Administration's (FRA) Hazardous Materials Specialist, Jeffrey Moore, presented regarding issues pertaining to an incident in Chicago, Illinois involving a site decommissioning project containing radioactive materials intended to be shipped to Waste Control Specialist in Andrews, Texas. He

described how an initial investigation was conducted by the FRA because of the reporting of damaged railcars. His presentation included detailed information and pictures which indicated how the contractor cut lateral braces from the railcar which were designed to provide structural support. He explained how the cut braces tore two Lift Pac bags containing contaminated soil. As the investigation unfolded, FRA would discover the transportation contractor removed the braces without getting approval from the owner of the railcars or utilizing engineering specifications. He concluded by noting FRA and the state partners are still investigating the circumstances of the incident.

Ms. Betsy Madru, Vice President of Global Affairs and Policy, of Deep Isolation was the next speaker to address the Committees. She laid the groundwork of the world's need for clean energy but stated the back end of the fuel cycle is still a deterrent for nuclear as repositories are costly and time consuming. She contradicted the traditional strategy with Deep Isolation's vertical, slanted or horizontal deep borehole concepts for disposal of spent nuclear fuel. She talked about lower cost estimates, the science behind the approach, stakeholder engagement and the concept of operations. Additionally, she covered the safety aspects from a geological perspective as well as detailing the added protection from the technical specifications of the canister. She indicated there is a great deal of global interest in Deep Isolation and several countries have embarked on studies to explore the feasibility of the approach. She finished her speech by informing the members Deep Isolation has conducted an international survey to gather more input regarding their undertaking and is also in the process of consulting with governments and industry to create a demonstration program.

Mr. Kevin Connolly, Oak Ridge National Laboratory, was the final speaker on the opening day of the conference. He provided two presentations (Section 180(c) Funding Formulas and Historical Barge Shipments) for the Committees. He began with the Section 180(c) discussion and explained how DOE used the proposed formula in the 2008 Federal Register Notice to run 20 different hypothetical scenarios for spent fuel transport. He outlined all the criteria DOE used in conducting the analysis and then displayed charts detailing the total amount of funding available to each state and tribe over a 20-year period.

Mr. Connolly shifted his focus to historical barge shipments by looking at campaigns from Puerto Rico, Germany and one nuclear power plant in the United States. The Puerto Rico shipments occurred in the late 1960s and was transported to West Valley in New York. Many reinforcements were adopted for this shipment including a sun shield to reduce the temperature of the cask surface during transport. The multi modal shipments from Shoreham Nuclear Power Plant (NY) to Limerick Nuclear Power Plant (PA) took place in the early 90s and represented the first time spent nuclear fuel was moved by heavy haul to barge to rail. The German campaign occurred in 2017 between two nuclear power plants located near the Neckar River. Three casks were moved in each shipment, and it marked the origin of inland waterway transport of spent fuel in Germany.

The second day of the meeting began with an administrative business session led by Mr. Christopher Wells. He told committee members to be expeditious in returning their expense reports because the SSEB office would be closing soon for the holidays. Following these remarks, Mr. Wells introduced Mr. Quinton Dailey of Alabama who was serving as the Chairman of the Radioactive Materials Transportation Committee. Mr. Dailey formally commenced the second day of the meeting by initiating the introduction of all presenters as identified on the program agenda.

The second day of the conference began with an overview of the Navy's spent nuclear fuel shipping program delivered by Mr. Mark Salamon. He gave a historical overview of the naval nuclear propulsion program beginning in 1948. He explained how refueling/defueling and decommissioning of naval vessels integrated into spent fuel shipping campaigns. He explained the differences in the characteristics of the navy fuel as opposed to fuel at nuclear power plants. He showed a map with the Navy's rail shipment routes, shipyards, and reactor facilities. Next, he displayed graphs with photographs and descriptions of the Navy's Type B shipping containers and reviewed the shipment policies and procedures. He also discussed the Naval Spent Fuel Shipment Exercises and showed a map with the locations of past events. He concluded by talking about the most recent exercise which took place in September 2022 in Moberly, Missouri.

Mr. Mike Valenzano, Senior Project Manager for ORANO TN Americas discussed the details for an intermodal transport from the Crystal River Nuclear Plant in Florida to Waste Control Specialist in Andrews, Texas. The campaign will involve Greater Than Class C Waste and highly contaminated internal structures such as the reactor vessel. Furthermore, he talked about the construction of four mammoth packages to transport the materials before addressing the transportation logistics of barge to heavy haul.

Mr. Charles Miller with the Office of Secure Transport briefed the Committees on the OST mission. He talked about the background and qualifications of the OST Agents and generalized how they conduct their courier duties for nuclear weapons transport. He talked about transport and escort vehicles, engagement and exercises with law enforcement and collaboration with the WIPP Program on training initiatives.

The final speaker of the two-day event was Mr. Ed Mayer, Program Director of the HOLTEC Consolidated Interim Storage Facility (CISF). Mr. Mayer began by explaining the core business activities and international storage and transport experience of HOLTEC. He transitioned to the CISF reviewing the safety, security and retrievability of the HI-STORM UMAX technology which will be used to house the spent nuclear fuel. He showed an illustration of the layout of the facility and potential transportation options to the location. Finally, he displayed a

diagram of a unit train consist and provided a status update of the Nuclear Regulatory Commission licensing process for the opening of the facility.

The remaining portion of the meeting consisted of a round table discussion to highlight the activities of all states in attendance, in addition to hearing reports from the other regional groups and the tribes. After all participants had provided an update, Mr. Wells reported on the status of activities at SSEB.

The final order of business at the meeting was the announcement of the location and date of the next meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Working Group. Since the group continues to meet in conjunction with the NTSF for their Spring meeting, it was reported that they would gather again on May 22-25, 2023, during the Annual Meeting in St. Louis, Missouri.